

REMARKS

IDS

Applicants note that the Examiner has not yet considered the references cited on the IDS of July 13, 2006, which were the references cited in the International Search Report. The Examiner states that the references have not yet been considered because they have not yet been received by the USPTO. Applicants note that the present application is a National Stage Entry, and thus the USPTO should have been supplied these references from the International Bureau. Nevertheless, Applicants submit herewith an additional Information Disclosure Statement with the cited references, and respectfully request that the Examiner indicate that the references have been considered.

Amendment summary

Claim 9 is amended to clarify that the polymer compound comprises at least one polymerizable substituent in the molecule of the polymer compound.

Claims 10 and 11 are amended for formality reasons.

No new matter is added by this Amendment, and Applicants respectfully request entry of the Amendment.

Status of the claims

Claims 9-11 stand rejected under 35 U.S.C. § 112 as allegedly being indefinite. In addition, Claims 1-13 stand rejected under 35 U.S.C. § 102(a) or (e) as allegedly being anticipated by Kitano et al. (U.S. Patent Application Publication No. 2004/0109955) (hereinafter “Kitano”). Claims 1-8 and 10-13 stand rejected under 35 U.S.C. § 103(a) as allegedly being

unpatentable over Kreuder et al. (U.S. Patent No. 5,814,244) (hereinafter “Kreuder”). Further, Claims 1-6 and 10-13 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Yamamoto et al. (U.S. Patent No. 6,034,206) (hereinafter “Yamamoto”). In addition, Claims 1-7 and 9-13 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Allen et al. (U.S. Patent No. 6,630,566) (hereinafter “Allen”).

Finally, Claims 1-13 have been provisionally rejected on the grounds of obviousness-type double patenting based on copending Application No. 10/647,454.

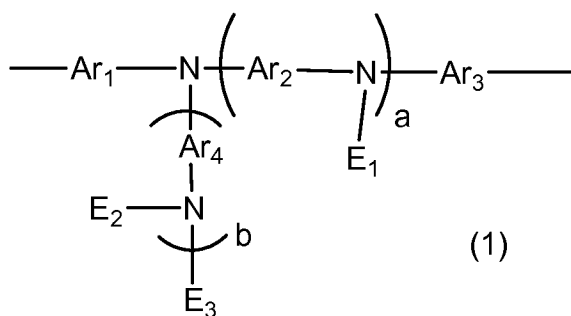
Response to rejections under 35 U.S.C. § 112

Claims 9-11 stand rejected under 35 U.S.C. § 112 as allegedly being indefinite. Applicants respectfully request the reconsideration and withdrawal of this rejection in view of the amendments to Claims 9-11.

Response to rejection under 35 U.S.C. § 102 based on Kitano

Claims 1-13 have been rejected under 35 U.S.C. § 102(a) or (e) as allegedly being anticipated by Kitano. Applicants respectfully traverse on the grounds that Kitano does not disclose or suggest a layer (L) comprising a polymer compound exists between the light emitting layer and the anode where the polymer compound comprises a repeating unit of the formula (1).

The present claims recite an organic electroluminescence device wherein (i) a light emitting layer exists between electrodes composed of an anode and a cathode; (ii) a layer (L) comprising a polymer compound exists between the light emitting layer and the anode; and (iii) the polymer compound comprises a repeating unit of the following formula (1):



In the formula, Ar₁, Ar₂, Ar₃ and Ar₄ represent each independently an arylene group or divalent heterocyclic group, E₁, E₂ and E₃ represent each independently the following aryl group (A) or heterocyclic group (B), a and b represent each independently 0 or 1, and 0 ≤ a + b ≤ 1. Aryl group (A) is an aryl group having three or more substituents selected from alkyl groups, alkoxy groups, alkylthio groups, aryl groups, aryloxy groups, arylthio groups, arylalkyl groups, arylalkoxy groups, arylalkylthio groups, arylalkenyl groups, arylalkynyl groups, amino group, substituted amino groups, silyl group, substituted silyl groups, silyloxy group, substituted silyloxy groups, monovalent heterocyclic groups and halogen atoms. Heterocyclic group (B) is a monovalent heterocyclic group having one or more substituents selected from alkyl groups, alkoxy groups, alkylthio groups, aryl groups, aryloxy groups, arylthio groups, arylalkyl groups, arylalkoxy groups, arylalkylthio groups, arylalkenyl groups, arylalkynyl groups, amino group, substituted amino groups, silyl group, substituted silyl groups, silyloxy group, substituted silyloxy groups, monovalent heterocyclic groups and halogen atoms and in which the sum of the number of the substituents and the number of hetero atoms of the heterocycle is 3 or more.

By possessing the two features (ii) and (iii) above, the presently claimed invention possesses an unexpectedly long life.

Applicants respectfully traverse on the basis that Kitano does not disclose or suggest the layer L recited in the present claims. Kitano discloses a polymer of formula (1), which corresponds to formula (1) of the present claims, and formula (2). Kitano also discloses a light emitting device comprising the polymer, and further discloses various multilayered structures.

However, Kitano does not disclose or suggest a device having the presently recited features (ii) and (iii) at the same time. Applicants respectfully submit that a person having ordinary skill in the art reviewing Kitano would not immediately envision such a device.

As Applicants previously noted, the presently claimed invention exhibits an unexpectedly longer life, as evidenced by the following experimental results, which are described in the present specification:

	Example 1	Comparative Example 1
Structure	anode / PEDOT / layer (L)(polymer2) / light emitting layer / cathode	anode / PEDOT / light emitting layer / cathode
Half-life	892 hours	363 hours

In particular, in Example 1, the half-life of the structure (anode / PEDOT / layer (L)(polymer2) / light emitting layer / cathode) was 892 hours. Conversely, in Comparative Example 1, in which the structure was (anode / PEDOT / light emitting layer / cathode), the half life was only 363 hours. The difference between the two is that in Comparative Example 1, layer L was not present.

These results are not disclosed or suggested by Kitano, further supporting Applicants' position that Kitano does not disclose or suggest the presently claimed invention.

In view of the above, Applicants respectfully submit that the presently claimed invention is not anticipated by or rendered obvious by Kitano. Applicants therefore respectfully request the reconsideration and withdrawal of this rejection.

Response to rejections under 35 U.S.C. § 103

Claims 1-8 and 10-13 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Kreuder. In addition, Claims 1-6 and 10-13 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Yamamoto. Claims 1-7 and 9-13 also have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Allen. Applicants respectfully traverse on the basis that (1) none of the cited references possesses or renders obvious the features (ii) and (iii) discussed above; and (2) the presently claimed invention exhibits the unexpectedly superior half-life discussed above.

Applicants first note that none of the cited references discloses or suggests features (ii) and (iii) discussed above. Thus, Applicants respectfully submit that the cited references fail to render obvious the presently claimed invention.

In addition, as noted above, the presently claimed invention exhibits unexpectedly superior half-life, as discussed above. Thus, Applicants respectfully submit that the presently claimed invention is not rendered obvious by the cited references. The reconsideration and withdrawal of these rejections is respectfully requested.

Response to provisional obviousness-type double patenting rejection

Applicants respectfully request reconsideration of the rejection in view of the arguments set forth above.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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CUSTOMER NUMBER

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